



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,698	07/03/2003	Ta-Hung Yang	MXIC-P910190	7451

7590 07/01/2004
Kenton R. Mullins
Stout, Uxa, Buyan & Mullins, LLP
Suite 300
4 Venture
Irvine, CA 92618

EXAMINER

TSAL, H JEY

ART UNIT	PAPER NUMBER
----------	--------------

2812

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/614,698	Applicant(s) YANG ET AL.	
	Examiner H.Jey Tsai	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/3/03</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 9-16 and 24-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Otsuki 6,436,772.

Otsuki discloses a method of code programming a ROM device having bit (diffusion) lines 1 oriented in a first direction within a substrate, a gate oxide layer above the substrate, and word (gate) lines formed above the gate oxide layer in a second direction (see figs. 1A, 5A+ and col. 6, lines 8+), the method comprising the following:

forming a first implantation resistant photoresist layer 6 over the word (gate) lines 2 and the gate oxide layer, see figs. 5A+,

selectively exposing the first implantation resistant layer 14 to develop first code openings, each first code opening being positioned over a word line and between two adjacent bit (diffusion) lines 1 intersecting the word line 2 at a gate (channel) region, wherein the first code openings are formed in a pattern in which substantially all of a predetermined selection of gate regions, which may be coded, of the ROM device openings are exposed, fig. 5C,

forming a second implantation photoresist resistant layer 15 over the first implantation resistant layer 14,

selectively exposing the second implantation resistant layer 15 to develop second code openings therein, the second code openings being selected at predetermined locations according to a coding content of the ROM device; and implanting particles through the second code openings, fig. 5D,

the pattern of the first code openings 14a has an area, which is greater than an area encompassed by the second code openings 3a,

the second code openings 3a are formed in a pattern in which less than all of the first code openings are exposed,

the second code openings 3a comprise a first pattern 14 and a second pattern 15, the first pattern 14 having an area which is substantially greater than an area of the second pattern 15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 is rejected under 35 U.S.C 103 as being unpatentable over Otsuki as applied to claims 1-7, 9-16 and 24-30 above, and further in view of prior art of Otsuki 6,436,772 and Admitter prior art, pages 3-5.

The difference between the references applied above and the instant claim(s) is: Otsuki teaches using photoresist layer as implantation resistant layer in the main body

Art Unit: 2812

of the invention, however, Otsuki teaches in the related prior art, using inorganic (insulating) film 6 as implantation resistant layer at col. 3, lines 25+ and fig. 3a+.

Admitted prior art, pages 3-5, teaches using oxide layer as a mask layer

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings as taught by the related prior of Otsuki and Admitted prior art because insulating layer (such as oxide layer) can take higher temperature than organic photoresist layer during ion implantation process.

Claims 17-23 are rejected under 35 U.S.C 103 as being unpatentable over Otsuki as applied to claims 1-7, 9-16 and 24-30 above, and further in view of Admitted prior art pages 2-5.

The difference between the references applied above and the instant claim(s) is: Otsuki teaches using photoresist layer as implantation resistant layer in the main body of the invention but does not teach using two mask exposure to form the first implantation resistant layer. However, Admitted prior art teaches at pages 2-5, using two mask exposure to form the first implantation resistant layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings as taught by Admitted prior art by using two mask exposure to form the first implantation resistant layer because different dimension of openings can be obtained.

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the Group customer service whose telephone number is (703) 308-4357.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-

Art Unit: 2812

1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679.

The fax phone number for this Group is (703) 872-9306.

hjt

6/21/04

A handwritten signature in black ink, appearing to read 'H. Jey Tsai'.

H. Jey Tsai
Primary Examiner
Patent Examining Group 2800